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**REMARKS**

Applicant has reviewed and considered the final office action mailed on October 22, 2002 and the references cited therewith.

Claim 11 is amended, claims 9 and 10 are cancelled, and claims 30-37 are added; as a result, claims 2, 3, 5-8, 11-12, and 30-37 are now pending in the application. Claim 11 is not amended in response to an art rejection. Claim 11 is rewritten to include the elements of claims 9 and 10 from which claim 11 previously depended. Claims 30-37 find support in the specification, for example, at page 4, lines 3-6 and at page 5, lines 10-12.

*§ 102 Rejection of the Claims*

Claim 5 was rejected under 35 U.S.C. § 102(e) as being anticipated by Naito et al. (U.S. 6,034,864). Applicant does not admit that Naito et al. is prior art and reserves the right to "swear behind" Naito et al. as provided for under 37 C.F.R. 1.131. Applicant traverses the rejection of claim 5.

Claim 5 recites, "wherein the plurality of vias are plated through holes." Applicant respectfully submits that Naito et al. do not teach "wherein the plurality of vias are plated through holes." The office action, at page 7 states, "Naito et al. disclose in col. 5 lines 35-40 that the vias are "plated." Applicant respectfully disagrees with this statement. Naito et al. at col. 5, lines 35-40 recite:

The connection portions 40 and 41 may be formed, for example, by forming holes in the ceramic green sheets before they are laminated together and filling the holes with conductive paste before they are stacked one on top of the other.

The term "plated" does not appear in the quoted material. Thus, the quoted material does not teach "plated through holes." Furthermore, Naito et al., in the quoted material, teach "filling the holes." A filled hole can never be a plated through hole because a plated through hole includes a hole, after plating, and a filled hole does not include a hole, after filling. Hence, applicant respectfully submits that Naito et al. do not teach "plated

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through holes." Thus, Naito et al. do not teach each of the elements of claim 5, so the office action fails to state a *prima facie* case of anticipation with respect to claim 5. Therefore, applicant requests withdrawal of the rejection and reconsideration and allowance of claim 5.

Claims 5 and 9-10 were rejected under 35 U.S.C. § 102(e) as being anticipated by Farooq, et al. (U.S. Patent 6,072,690). Applicant does not admit that Farooq et al. is prior art and reserves the right to "swear behind" Farooq et al. as provided for under 37 C.F.R. 1.131. Claims 9 and 10 are cancelled, so the rejections of claims 9 and 10 are moot. Applicant traverses the rejections of claim 5.

Claim 5 recites, "wherein the plurality of vias are plated through holes." Applicant respectfully submits that Farooq et al. do not teach "wherein the plurality of vias are plated through holes." The office action, at page 7, states, "Farooq et al. disclose in col. 6 (method 1) that the vias are "plated." Applicant respectfully disagrees with this statement. First, applicant submits that the term "plated" is not used in the description of method 1, column 6, lines 25-67. Second, Farooq et al., at column 6, lines 31-33, states, "Using metal screening procedures, the vias 82 are *filled* with an appropriate metal past 84 . . ." (emphasis added) In addition, Farooq et al., at column 7, line 26 and column 7, line 54, teach "filled" vias. Thus, Farooq et al. teach "filled" vias. Filled vias can never be plated through holes because a plated through hole includes a hole or via and a "filled" via does not include a hole or via. Hence, applicant respectfully submits that Farooq et al. do not teach "plated through holes." Thus, Farooq et al. do not teach each of the elements of claim 5, so the office action fails to state a *prima facie* case of anticipation with respect to claim 5. Therefore, applicant requests withdrawal of the rejection and reconsideration and allowance of claim 5.

*§ 103 Rejection of the Claims*

Claims 2-3, 6-8, and 11-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Farooq, et al. (U.S. Patent No. 6,072,690). Applicant does not admit that Farooq et al. is prior art and reserves the right two "swear behind" Farooq et al. as

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provided for under 37 C.F.R. 1.131. Applicant traverses the rejections of claims 2-3, 6-8, and 11-12.

With respect to claim 2, the office action states: "It would have been an obvious matter of design choice ... since such a modification would have involved a mere change in the size of a component." Applicant respectfully disagrees. Applicant submits that in the art of forming capacitors, forming capacitors that have a plurality of conductive layers coupled to a plurality of connection sites forming a capacitor that has a thickness of between .5 mm and 1 mm is not a matter of obvious design choice. The office action cites to *In re Rose*, 105 U.S.P.Q. 237 (CCPA 1955) and states that a change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose* is directed to lumber packaging, while the present invention is directed to capacitor design. Applicant respectfully submits that the rule of *In re Rose*, which is grounded in the facts of lumber packaging, is not applicable to the design of capacitors because lumber packaging and capacitor design are technologies in which scaling has different consequences.

Furthermore, applicant respectfully submits that citation to *In re Rose* is insufficient to satisfy the burden of stating a *prima facie* case of obviousness with respect to claim 2. Claim 2 recites, "wherein the capacitor has a thickness of between about .5 millimeter and about 1 millimeter." Farooq et al. do not teach or suggest "wherein the capacitor has a thickness of between about .5 millimeter and about 1 millimeter." In fact, Farooq et al. fails to provide any teaching or suggestion related to the thickness of a capacitor. So, since the office action does not cite to a reference that teaches or suggests this element, applicant assumes that the rejection is based on facts within the personal knowledge of the Examiner. Therefore, applicant respectfully requests that the Examiner provide an affidavit as required by MPEP § 2144.03. If the Examiner cannot provide an affidavit, applicant requests withdrawal of the rejection and reconsideration and allowance of claims 2.

The office action, on page 7, asserts that the rejection of claim 2 relies on *In re Rose* and *In re Boesch*, 617 F.2d 272, 205 U.S.P.Q. 215 (CCPA 1980). Applicant

respectfully submits that the rejection of claim 4, on page 4 of the office action, only cites to *In re Rose*. Therefore, applicant requests withdrawal of the rejection and reconsideration and allowance of claim 2.

With respect to claim 3, the office action states: "It is well known in the capacitor art to form capacitors having a particular capacitance for an electrical system. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the capacitor of Farooq et al. having a capacitance of 20 to 30 microfarads." Applicant respectfully disagrees. Applicant submits that in the art of forming capacitors, forming capacitors that have a plurality of conductive layers coupled to a plurality of connection sites forming a capacitor that has a thickness of between .5 mm and 1 mm and that has a capacitance of 20 to 30 microfarads is not a matter of obvious design choice. The combination of capacitance value, thickness, and a plurality of conductive layers coupled to a plurality of connection sites is nonobvious in view of the prior art. The office action cites to *In re Boesch*, 617 F.2d 272, 205 U.S.P.Q. 215 (CCPA 1980), and states that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch* is directed to alloy design while the present invention is directed to capacitor design. Applicant respectfully submits that the rule of *In re Boesch*, which is grounded in the facts related to alloy design, is not applicable to capacitor design because the process for designing alloys is different from the process for designing capacitors. For example, capacitor design does not involve a "result effective variable" which is central to *In re Boesch*.

Furthermore, applicant respectfully submits that citation to *In re Boesch* is insufficient to satisfy the burden of stating a *prima facie* case of obviousness with respect to claim 3. Claim 3 recites, "wherein the capacitor has a capacitance of between about 20 and about 30 microfarads." Farooq et al. do not teach or suggest "wherein the capacitor has a capacitance of between about 20 and about 30 microfarads." In fact, Farooq et al. fails to provide any teaching or suggestion related to the capacitance of a capacitor. So, since the office action does not cite another reference that teaches or suggests this element, applicant assumes that the rejection is based on facts within the personal

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knowledge of the Examiner. Therefore, applicant respectfully requests that the Examiner provide an affidavit as required by MPEP § 2144.03. If the Examiner cannot provide an affidavit, applicant requests withdrawal of the rejection and reconsideration and allowance of claims 3.

Claim 6 recites, “a pair of dielectric sheets, each of the pair of dielectric sheets having a thickness slightly greater than about 7 microns, for providing a pair of substantially rigid outer surfaces for the plurality of second conductive layers interlaced with the plurality of first conductive layers.” Applicant respectfully submits that Farooq et al. do not teach or suggest this element. With respect to the thickness of the dielectric sheets, Farooq et al. at column 6, line 25, states: “Referring to FIG. 4a a green ceramic sheet 80 (thickness to be determined by final product requirements), has placed therein one or more holes 82 (also known as vias) in it.” Thus, since Farooq et al. do not teach or suggest each of the elements of claim 6, the office action does not state a *prima facie* case of obviousness with respect to claim 6. Therefore, applicant requests withdrawal of the rejection and reconsideration and allowance of claim 6.

With respect to claim 6, the office action states: “It would have been an obvious matter of design choice to form the pair of dielectric sheets having a thickness of slightly greater than 7 microns, since such a modification would have involved a mere change in the size of a component.” Applicant respectfully disagrees. The office action cites to *In re Rose*, 105 U.S.P.Q. 237 (CCPA 1955) and states that a change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose* is directed to lumber packaging, while the present invention is directed to capacitor design. Applicant respectfully submits that the rule of *In re Rose*, which is grounded in the facts of lumber packaging, is not applicable to the design of capacitors because lumber packaging and capacitor design are technologies in which scaling has different consequences.

Furthermore, applicant respectfully submits that citation to *In re Rose* is insufficient to satisfy the burden of stating a *prima facie* case of obviousness with respect to claim 6. Claim 6 recites, “each of the pair of dielectric sheets having a thickness slightly greater than about 7 microns.” Farooq et al. do not teach or suggest “each of the

pair of dielectric sheets having a thickness slightly greater than about 7 microns." So, since the office action does not cite another reference that teaches or suggests this element, applicant assumes that the rejection is based on facts within the personal knowledge of the Examiner. Therefore, applicant respectfully requests that the Examiner provide an affidavit as required by MPEP § 2144.03. If the Examiner cannot provide an affidavit, applicant requests withdrawal of the rejection and reconsideration and allowance of claims 6.

Claim 7 is dependent on claim 6, so claim 7 includes all of the elements of claim 6. Applicant respectfully submits, as argued above, that Farooq et al. do not teach or suggest each of the elements of claim 6. Therefore, Farooq et al. do not teach or suggest each of the elements of claim 7, and the office action does not state a *prima facie* case of obviousness with respect to claim 7. Therefore, applicant requests withdrawal of the rejection and reconsideration and allowance of claim 7.

Claim 8 is dependent on claim 6, so claim 8 includes all of the elements of claim 6. Applicant respectfully submits, as argued above, that Farooq et al. do not teach or suggest each of the elements of claim 6. Therefore, Farooq et al. do not teach or suggest each of the elements of claim 8, and the office action does not state a *prima facie* case of obviousness with respect to claim 8. Therefore, applicant requests withdrawal of the rejection and reconsideration and allowance of claim 8.

Claim 11 is rewritten to include the elements of claim 9 and 10. Claim 11, as rewritten, recites, "a plurality of substantially rigid outer surfaces." Applicant respectfully submits that Farooq et al. do not teach or suggest "a plurality of substantially rigid outer surfaces" because Farooq et al. do not address the rigidity of the surfaces of a capacitor. Therefore, since Farooq et al. does not teach or suggest each of the elements of claims 11, as rewritten, the office action does not state a *prima facie* case of obviousness with respect to claim 11.

Furthermore, applicant respectfully submits that citation to *St. Regis Paper Co. v. Bemis Co.*, 193 U.S.P.Q. 8. is insufficient to satisfy the burden of stating a *prima facie* case of obviousness with respect to claim 11. Claim 11 recites, "wherein the number of

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conductive layers is greater than about 50." Farooq et al. does not teach or suggest "wherein the number of conductive layers is greater than about 50." Farooq et al. teach, for example, as shown in Fig. 3B eight conductive layers. So, since the office action does not cite a reference that teaches or suggests "the number of conductive layers greater than 50," applicant assumes that the rejection is based on facts within the personal knowledge of the Examiner. Therefore, applicant respectfully requests that the Examiner provide an affidavit as required by MPEP § 2144.03. If the Examiner cannot provide an affidavit, applicant requests withdrawal of the rejection and reconsideration and allowance of claims 11.

Claim 12 is dependent on claim 11. For reasons analogous to those stated above and elements in the claim, applicant respectfully submits that the office action fails to state a *prima facie* case of obviousness with respect to claim 12. Therefore, applicant requests withdrawal of the rejection and reconsideration and allowance of claim 12.

Furthermore, applicant respectfully submits that citation to *St. Regis Paper Co. v. Bemis Co.*, 193 U.S.P.Q. 8. is insufficient to satisfy the burden of stating a *prima facie* case of obviousness with respect to claim 12. Claim 12 recites, "wherein the number of pads is greater than about 4000." Farooq et al. do not teach or suggest, "wherein the number of pads is greater than about 4000." Farooq et al. teach, for example, as shown in Fig. 3B, four pads. A teaching of four pads does not teach or suggest, "wherein the number of pads is greater than about 4000." So, since the office action does not cite a reference that teaches or suggests, "wherein the number of pads is greater than about 4000," applicant assumes that the rejection is based on facts within the personal knowledge of the Examiner. Therefore, applicant respectfully requests that the Examiner provide an affidavit as required by MPEP § 2144.03. If the Examiner cannot provide an affidavit, applicant requests withdrawal of the rejection and reconsideration and allowance of claims 12.

**AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 – EXPEDITED PROCEDURE**

Serial Number: 09/473,315

Filing Date: December 28, 1999

Title: HIGH PERFORMANCE CAPACITOR

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Dkt. 884.209US1

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**CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone applicant's attorney at 612-371-2109 to facilitate prosecution of the application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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By his Representatives,

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Date April 21, 2003

By Danny Padys  
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Box RCE, Commissioner of Patents, Washington, D.C. 20231, on this 21<sup>st</sup> day of April, 2003

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Signature